WYOMING NATIVE PLANT SOCIETY

1603 Capitol Ave.,#325
Cheyenne, WY 82001
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634-9629

WYOMING NATIVE PLANT SOCIETY NEWS LETTER, Vol 2 # 2

New Members and Old: (Also dues renewal time): Since the last newsletter (Vol.2 #1) we have gained five new members. They are: Ellen Collins (Ft. Collins), James Borland (Palisades, CO.), Joan Nice (Lander), Virginia Wheeler (Cheyenne), and Barb Stromberg (Denver). This brings our membership up to 58 members. We welcome aboard all the new members.

"Dues" - At the annual meeting it was decided that the dues will be paid annually as stated in the bylaws. This will effect 23 of our members. If you are one of these folks, your name tag will have a star behind it. Please send $3.00 to the Wyoming Native Plant Society if you are one of these people. This will be your last notice. RWL

Treasurer's Report: The last balance was $198.02. Deposits = $114.00; cost of last newsletter 2 (1) = $30.22; Secretary of State = $1.50; and service charges = $12.00; State of Wyoming = $6.00; summer flier for annual meeting = $28.08. New balance = $234.22. RWL

Other Names on our Mailing List: Colorado, Northern Nevada, Idaho, and New Mexico Native Plant Societies. Also, Faith Cambell at Natural Resource Defense Council (NRDC). RWL

Minutes and List of Members in Attendance at the Annual Meeting: The minutes of the 1981 meeting were read to the 18 people in attendance. A quorum of 11 members were present. It was 85°-90°F, calm and sunny. Phyllis Roseberry was publically abused (with Phyllis's approval) for poor accounting procedures. The next item suggested by R. Dorn, that our dues be paid annually by all members. R. Lichvar moved to require annual collection of dues. We then resumed the B.S. on the I.R.S. non-profit status, Phyllis is a public disgrace. R. Lichvar claimed responsibility to file the claims and M. Stromberg volunteered to help. We then took up the problems of office occupancy. We decided to have a notifying committee who will call the candidatesand see if they will accept the office. Only if they accept, will they be nominated.

Election of Officers

President - Robert Dorn
Vice-President - Ann Aldrich
Secretary-Treasurer - Robert Lichvar
1 year Board Member - Ernie Nelson

R. Dorn will accept his office on conditions:
1) Tax status filed and returned
2) Books audited and found to be satisfactory

Treasurer's Report: Current balance $195.72.

Other: All in attendance decided not to form committees to respond to incoming correspondence. The Rare Plant bill was discussed, no one drafted a bill, and R. Dorn pointed out it was too late to get a draft to the General Session of the Legislation. The future plans were discussed.

1. Draft a bill to address the most critically threatened species.
2. Avoid a bill that deals with all native plants.
3. Include a provision to let private land owners have a say.
4. Game and Fish Dept. may go with authority if Trust Fund includes plants.

Bill Edwards and John Turner were targeted as potential introducers. Phil White was proposed possibly to draft the bill. All these heavy discussions were followed by two field trips. Dave Martin distributed a plant list for the Worland District. R. Dorn awarded 10 Doorn prizes, copies of his Flora of the Black Hills.

People in Attendance:

Tim Messick
Keith Dueholm
Ron Hartman
E.F. Evert
Barb Stromberg & Brian
B. E. Nelson
Dave Martin
Bob Lichvar
Mara Evert
Bob Dorn
Hollis Marriot
Virginia Wheeler
Gael Fonken
Mark Stromberg
Jane Dorn

News That's Making News:

Dugout Gulch, Black Hills: This gulch is where the Wyoming Native Plant Society members went on their field trip, only to find that it was staked out for a logging road. This gulch is a one of a kind place in Wyoming because of the high concentration of rare plant species and plant communities unique to the state. One needs only to visit Dugout Gulch to see the majority of the unique flora of the Black Hills in one location. Once all of the members had seen a surveying stake driven into an individual of Asclepias ovalifolia (which was bleeding mostly white corpuscles), we decided to take action.

This action has and will be followed up by the Wyoming Native Plant Society and the Nature Conservancy (TNC). A portion of Dugout Gulch is private land and belongs to Homestake Mining, so it will be vital to have TNC involved to protect the gulch. The actions to date then are as follows:

1. Mark Stromberg (TNC, WNPS) contacted Gary McCoy (USFS) to alert him of the problem.
2. R. Lichvar wrote G. McCoy to identify the unique species and communities in the gulch.
3. R. Lichvar appointed R. Dorn (WNPS) Conservation Committee Chairman.
4. R. Dorn fielded phone calls from Forest Service people in South Dakota.
5. Barry Johnston (USFS) went to Dugout Gulch to compile a report on the vegetation, he called R. Dorn and R. Lichvar.
6. R. Lichvar got R. Kiesling (TNC, Big Sky Office) involved with private property within the gulch.
7. Janet Johnson (USFS, Missoula) suggested we prepare a report on Dugout Gulch and send it to a project manager in USFS so they could propose the site as a Research Natural Area (RNA).

So, as of this Newsletter, R. Dorn and R. Lichvar are preparing a report to be used in conjunction with proposing this area as an RNA. RWL

Ross Bentgrass from YNP:

Due to lots of efforts by several people, the outcome of the status of Agrostis rossiae (Ross Bentgrass) appears to be in fine shape. Until recently, it was thought that this species may have been going extinct. The reasons for these thoughts were: 1) only one extant population was known to occur, 2) indications by A. Beetle in his "Grasses of Wyoming" mentioned this species was once observed at Whistling Geyser and had since gone extinct at this site, and 3) all historical locations could not be relocated. Once the taxonomy of the species was ironed out and some good handles obtained through greenhouse studies, these observations were taken to the field.

Rare grass rediscovered near Old Faithful, say park officials

YELLOWSTONE PARK (UPI) — Park officials say a rare grass has been rediscovered growing in several locations within the geyser basins near Old Faithful.

Ross' Bentgrass was once believed to grow only at one thermal site in Yellowstone National Park.

Superintendent John Townsley said the intensive efforts of Robert Lichvar of the Wyoming Natural Heritage Program, Don Despain, research biologist in Yellowstone and volunteer Jennifer Hutchinson resulted in the discovery of several sites where the plant grows. It now appears to grow in all the known suitable habitat, he added.

Ross' Bentgrass is a small, inconspicuous grass, easily confused with a very similar grass, Winter Bentgrass.

Research efforts by the Wyoming Natural Heritage Program established that the grass is a true annual — a plant that completes its life cycle within one year or season.

The plant is protected under an agreement between the U.S. Fish and Wildlife Service and Yellowstone National Park.

Geyser grass rare indeed

Editor:

In reference to your article on the rare grass find at Old Faithful, I submit that any grass at all at Old Faithful would be rare — what with the millions of tourists tramping around the area.

C.P. ENDRES
Powell

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Ross Bentgrass ne of state's crown jewels

Editor:

In response to your "Geyser rass Indeed Rare" note in the th July 1982 issue of your per, I would like to round out e facts.

Ross Bentgrass, a rare endemic species from the Upper eyser Basin in Yellowstone, is nown only to inhabit this area the whole world. The cause of s extreme rarity was probably ue to a paucity in the data more an a pressure asserted by an.

The recent press release attempted to summarize four ears of field and laboratory esearch about Ross Bentgrass. he historical record gathered om all major natural history useums in the United States ave shown that this plant had nly been collected five times om 1890 to present. Due to ecent field efforts of Wyoming otanists, all historical sites ave been rediscovered and everal new locations added to he distribution of this grass. ut not only was there a gap in he information about the locaions of this unusual grass, the nderstanding of the species biology was just as void. The rass was hypothesized as not eing a good species. It was hought that it may have been a ocal grass seeding onto the hot springs and appearing to be nnual in its life cycle. reenhouse studies done by Wyoming Natural Heritage rogram have shown that it naintains its annual character nder control conditions. With he new data on locations and the biology of the species, it no longer appears to be in threat of extinction.

Human pressure may never have been a cause of threat to Ross Bentgrass. The habitat this grass grows in is so specialized that people would have to go to great extremes to destroy it. The sites are in the most dangerous areas in the geyser basin. Before the plants would be destroyed by trampling from humans, most intruders would be seriously injured by breaking through the crusts deposited by the geothermal activity and be burned.

This grass is among thirty other species that are only known from Wyoming. These endemic species are the "crown jewels" of the state flora.

ROBERT W. LICHVAR
Plant Taxomist/Program Coordinator
Cheyenne

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Last Spring several botanists from WNPS got together and did further field inventories for Agrostis rossiae. Jennifer Hutchinson (who lives at Old Faithful) throughout the winter of 1981-82 identified several potential habitats and questionable looking Agrostis. Don Despain, Jennifer Hutchinson, and R. Lichvar took several days in early June to do field investigations. These efforts resulted in identifying 7 additional locations of the species. This serves as a good example of the cooperation necessary sometimes to achieve certain goals with endangered species. Thanks also are extended to Bill Wiggins (UW Botany Greenhouse) for free use of his green thumbs and facilities.

A series of press releases and editorials followed the discoveries.

Colorado Butterfly Plant: Gaura neomexicana ssp. coloradensis (Colorado Butterfly Plant (not weed) is another proposed endangered species from Wyoming and occurs on Warren Air Force Base. There are three small pockets of this species outside of the base, but they occur on private property. Recently, the U.S. Air Force, U.S. Fish and Wildlife Service and Wyoming Natural Heritage Program (TNC) entered into a Memorandum of Understanding (MOU) to protect this plant. Within the air base there are approximately 6,000 individuals in excellent shape.

One major problem that has arisen since the signing of the MOU has been some complaints filed against the USAF about their weed problems. Some local ranchers took their complaint directly to a certain congressional delegate who turned the problem over to the Pentagon in Washington. The direct orders were to clean up the weeds. Many of the weed occur with the Gaura in its critical habitat, so several attempts have now been made to spray for weeds in this area.

The efforts of several people have been involved to alleviate the complaint about the noxious weeds. Some of the people involved in the spraying efforts are: Mark Stromberg (TNC), George Cormier (USAF), Jim Miller (FWS), R.Lichvar (WNPS, TNC), Stan McNamee (Laramie Co. Weed & Pest Control), and Ann Henson (Weed Res. Lab, CSU). These people have attempted spraying with backpack sprayers and hand held applicators. The success has not been what you would call great, but it's a start.

Several test plots were placed within the critical habitat to attempt growing the species. These three plots were seeded with the Gaura in hope of obtaining "spare" individuals to experiment on. Also, seeds were collected to be used in greenhouse studies at UW. Once spare plants are available, experiments with different herbicides will begin. The hopes are that we can find an herbicide that will kill the weeds and not the Gaura. Then we can indiscriminantly spray the whole habitat for weeds. The test plots were placed by Ellen Collins (TNC) and R. Lichvar (WNPS, TNC).RWL

Meeting Notice: The Society for Range Management, Colorado Section, will be having a two day meeting in Ft. Collins, Colorado. This meeting is scheduled for the 18th and 19th November, 1982. Some featured speakers are: Sheldon Boone (SCS), Bud Mekelburg (Pres. Natl Assoc. of Conservation Districts), and Mark Stromberg (The Nature Conservancy). For further information contact Marilyn Samuel, 8408 Hildreth Rd., Cheyenne, Wyo. 82009 or call (307) 772-2433. RWL.

Wyoming Natural Heritage Program Plant Community Classification:

The goal of the Nature Conservancy (TNC) is to preserve natural diversity by protecting lands containing the best examples of all floral and faunal components. The role of the Wyoming Natural Heritage Program (WNHP) is to inventory the state for rare or unique plants, animals, and plant communities. Information gathered by WNHP biologists and entered into a computerized data bank is used by the Nature Conservancy to determine those components of Wyoming's flora and fauna most in need of protection. Obviously, too many individual species comprise Wyoming's biota to deal with diversity on a one-to-one basis. Community classification acts as a coarse filter that captures most species without sorting out individuals. Those species that fall through this filter are dealt with on an individual basis and are generally considered to comprise Wyoming's rare or unique flora and fauna (usurped from material prepared by Steve Buttrick, TNC Plant Ecologist). For example, preservation of one or several Wyoming cushion plant-grass communities will not necessarily ensure proservation of the Laramie false sagebrush, Sphaeromeria simplex. This species would belong to the smaller fraction of diversity that is dealt with on an individual basis.

As WNHP Plant Ecologist, I have several responsibilities. My primary objective is to develop a natural community classification system. Natural communities are defined by TNC to be a distinct and reoccurring assemblage of populations of plants, animals, bacteria, fungi, etc., naturally associated with each other and their physical environment. They are characterized by a combination of physiognomy, vegetation structure and composition, topography substrate, and soil factors. A community is named for its most characteristic biotic and/or abiotic features, such as alpine meadow, cushion plant community, or salt desert shrub community. Features not well characterized by vegetation, such as badlands or scoria hills, are included in this habitat-based classification system.

Some major problems are associated with using a natural community classification system. Such a system is scaleless and no defined rules for naming communities exist. The concept of homogeneity is not considered, resulting in a mixture of both broadly and narrowly defined communities. Finally, natural community classification may lump together very different assemblages of plants.

Traditionally community classification in North America has been based on the donimant vegetation and plant communities named for the one or two dominant species in the canopy (i.e., Artemisia tridentata/Stipa comata). The drawback to this method is that some communities such as cliffs or aquatic systems, are better described by a combination of biotic and abiotic features.

TNC's approach is to use both methods because such a combination provides more information than either method alone (also usurped from S. Buttrick).

I am presently in the process of developing a natural community classification system based on field work conducted this summer and on published and unpublished literature. Once the classification system is developed, plant communities will be classified and rare and unique communities identified An outline for the classification system is presented below.

I. Natural Community Type- Terrestrial, Palustrine, Lacustrine, or Riverine
    A. Natural Community- to be defined based on field observations literature review; will include communities such as sand dunes, scoria hills, sand hills prairie, desert spring, alpine meadow
        1. System- based on canopy structure; includes angiosperm forest, shrub canopy, herb canopy, non-vegetated, etc.
            a. Cover Class- derived from and named after the donimant genus or codominant genera in the canopy; i.e., Bouteloua - Agropyron
                (1) Cover Type- derived from and named after the dominant or codominant species in the canopy; i.e., B. curtipendula- A. smithii
                    (a) Community Type- will often require quantitative sampling; represents a homogeneous stand of vegetation developing in an environment whose physical components are fairly uniform; at the present time, will be based solely on reliable literature.

A few unique communities were discovered this past summer. E.F. Evert reported some previously undescribed Trifolium meadows from the Absaroka Mountains. He and Bob Lichvar rediscovered a fen underlain be permafrost and characterized by peat accumulation, frost hummocks, and polygons. So far this is the only known such community in the lower 48 states! I located a sandhills prairie remnant that has only been winter grazed since the late

1800's. Bob Dorn reported a white spruce/lycopodium community from the Black Hills. Bob Lichvar saw pure stands of rock sagebrush (Sphaeromeria capitata) in the Owl Creeks. And I found the only extensive stand of mountain mahogany (Cercocarpus montanus) in the Wyoming Black Hills. If you don't think these communities are rare or unique in Wyoming, please let me know! Or if you know of any areas that might qualify as unique, call me! WNHP needs information, especially about the basin areas. EIC

The U.S. Forest Service National Herbarium Moves to Laramie

An estimated 130,000 plant specimens, the U.S. Forest Service National Herbarium (USFS), were added to the Rocky Mountain Herbarium (RM) at the University of Wyoming this past August. The latest addition brings to approximately 520,000 the number of specimens available for study and places the RM at 15th in size in the nation. Additionally a backlog of approximately 70,000 specimens are in various stages of processing.

The USFS was founded in 1910 by the noted forest ecologist, the late William A. Dayton. A pioneer in the study of range plants, Dayton was best known for his "Manual of Range Plants". The Herbarium was held in the Washington, D.C. headquarters of the U. S. Department of Agriculture until 1970. It was then transferred to the U.S. Forest Service Rocky Mountain Forest and Range Experiment Station in Fort Collins, Colorado where it was curated by Dr. Frederick Hermann and Dr. Charles Feddema. The latest move represents the 17th and probably final move for this massive (75 steel cases, 20 tons) collection.

The USFS is particularly rich in material from western national forests, and has contributed much information regarding geographical distribution of western plants. The collection also contains many specimens from other parts of the U.S., including Puerto Rico and Alaska.

The RM holdings have nearly doubled in the past five years, growing by some 294,000 specimens during the period. The W.G. Solheim Mycological Herbarium, an extensive collectic of 50,000 parasitic fungi and mushrooms donated by the late UW botanist in 1978, and the acquisition of the USFS have contributed significantly to this rapid growth. UW botany faculty, students, and the RM staff have added approximately 33,000 specimens and at least an equal number of duplicates , for use in exchange programs, over the past five years. Additionally, numerous specimens have been donated by amateur botanists and individuals associated with state and federal agencies including E.F. Evert, Robert Dorn, Robert Lichvar, Dave Martin, and Ann Aldrich. The RM participates in a very active exchange program involving eight European, one Asian, four Canadian, one Mexican, and 40 U.S. institutions.

To commemorate the move, the Botany Department held an Open House the afternoon of October 15th. The featured speaker was Dr. Roger L. Williams, Distinguished Professor of History at UW, who presented a talk entitled "Aven Nelson of Wyoming." Professor Williams has completed the manuscript for a book on the life of Nelson which is expected to be published within the coming year. Nelson founded the Herbarium in 1893 and it was officially recognized as the Rocky Mountain Herbarium by the UW Trustees six years later. He was a noted botanist of his time and served as UW president between 1917 and 1922. RH

The High Plains Grasslands Research Station

The High Plains Grasslands Research Station, located NW of Cheyenne and just west of F.E. Warren AFB, is a facility of USDA's Agricultural Research Service. Three plant scientists of the Forage, Range and Livestock Management Research Unit are conducting research on the effect of grazing, climatic and edaphic variables, fertilization and disturbance on the native plant community, seeded communities an/or selected species. There are over 2,000 acres at the headquarters unit where research is done on native rangeland and irrigated and dryland improved pastures. A natural area [Reported as part of a relic area by Beetle 1952 (J. Range Mange. 5:141-143)] and season-long, deferred rotation and short-duration and rotation grazing systems are being studied on 700 acres of native range at the East Unit. Because many of our studies require intensive monitoring of the plant community, a small plant collection and a plant list have been assembled. The list is available upon request from Marilyn J. Samuel, USDA-ARS, 8408 Hildreth Rd., Cheyenne, WY 82009. Research on stocking rate and grazing systems in relation to beef cattle production and reproduction is conducted in cooperation with the University of Wyoming. A Rangeland Soil Management Research Unit with four scientists is also headquartered at the station. The present research at the station has been on going since 1974 when the station name was changed from the Cheyenne Horticultural Field Station and work was redirected from research on ornamental plants. Visitors are welcome at the station 8-4:30 weekdays and by appointment on weekends, but appointments are best for any tour. MS

Botanical Novelties

Gunnison, Bryan, and Raynolds Expeditions

In 1853, John W. Gunnison commanded an expedition for a railroad survey in the West, but he was killed by Indians in Utah. Edwin Beckwith took over the command of the expedition and entered Uinta County, Wyoming in 1854. A few plants were collected, probably by James A. Snyder.

Two years later, in 1856, Francis T. Bryan commanded a wogon road expedition from Ft. Riley, Kansas to Bridger's Pass in Carbon County, Wyoming. Accompanying the expedition was Henry Engelmann, a geologist and the brother of George Engelmann who was a noted botanist form St. Louis. They entered Wyoming at Pine Bluffs in late July and reached the Bridger Pass area in mid August. West of the North Platte River they found it "almost entirely destitute of vegetation except the sage plant, and an occasional tuft of grass, ..." They commented that the "sage plant...proves a great impediment to our animals and marching men." Keep in mind that this was 1856, long before livestock were introduced into the area. Engelmann collected the type of Krynifzkia sericea (now Cryptantha sericea) at "Bridger's Pass" (actually near head of Sage Creek).

The Raynolds Expedition explored the Yellowstone country in 1859 and 1860. Plants were collected by G.H. Trook and F.V. Hayden. Raynolds is remembered from Carex raynoldsii, the type of which was collected in Pierre's Hole in adjacent Idaho. RDD

Contributors
Robert Lichvar RWL
Ellen Collins EIC
Robert Dorn RDD
Marilyn Samuels MS
Ron Hartman RH

Wyoming Native Plant Society
1603 Capitol Ave. #325
Cheyenne, Wyoming 82001